

28. PRELIMINARY $^{40}\text{Ar}/^{39}\text{Ar}$ STUDIES ON PHYRIC BASALTS FROM HOLE 395A, DSDP LEG 45

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Basalts representing phyric magma types P_2 , P_3 , and P_4 of DSDP Hole 395A were selected to study systematic variations in $^{40}\text{Ar} - ^{39}\text{Ar}$ behavior between phenocryst and groundmass assemblages. These studies are still underway, but we have determined the temperature-release characteristics of argon from feldspars of one sample (395A-16-1, # 1B) in a series of 11 one-hour temperature stages between 400°C and 1400°C. The argon is dominated by large amounts of gas of near-atmospheric composition. The 1400°C argon release contained excess ^{40}Ar amounting to 75 per cent of the "non-atmospheric" ^{40}Ar components. It appears to be associated with a high-melting-point phase with low K/Ca resembling that of plagioclase. The lower temperature release is dominated by a K-rich phase perhaps representative of zoning in the feldspars, the presence of a late-stage crystallization phase rich in

K, or, least likely, the effects of alteration. The data most likely reflect two populations of feldspars in the basalts: one highly calcic which originated in a primitive melt later mixed with a more fractionated melt containing the second, more sodic (and potassic) feldspars (Dungan et al., this volume).

Excluding the 1400°C data point, a York fit to a plot of $^{40}\text{Ar}/^{39}\text{Ar}$ versus $^{39}\text{Ar}/^{36}\text{Ar}$ which includes the atmospheric data point gives an intercept of 298 ± 1.1 and a slope of 5.1 ± 1.5 corresponding to an age of 9.8 ± 2.9 m.y. The oldest sediments at this site belong to the *Amaurolithus primus* Subzone of the *Discoaster quinqueramus* Zone, about 6.1 (+1.61 - 1.2) m.y. (Chapter 7, this volume). The site is on magnetic anomaly 4, estimated to be about 7 m.y. old. The oldest sediments at this site, however, are probably not the oldest in the sediment pond (Chapter 7, this volume).